Work Order ID 92454

92454

October-29-12 3:13:38 PM

Item ID: D3391-013 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Mid Tube Assembly

Start Date: 10/29/12 **Start Qty:** 1.00 *1* **Cust Item ID:**

Required Date: 11/02/12 **Req'd Qty:** 1.00 *1* **Customer:**

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Run Start** *NR1*

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop** *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	**Revision Nbr**								
D3391	I								
100		0.00							
100	Skidtubes								
Skidtubes	**Memo**	0.00							
Skidtubes	1-Cut tube to finish length as per Dwg D3391								
	2-Identify as D3391-013								
	3-Drill pilot holes using DT8796 (including "B" holes) and drill only 1 fwd saddle hole on one side only as per Dwg D3391								
	4-Open saddles and GHW holes to Ø0.375" exept for fwd saddle hole of detail "J"								
	5-Remove .030" from Fwd indexing Ridge as per Dwg D3391								
	6-Remove indexing ridge on Fwd & Aft end of skidtube as per Dwg D3391								
	7-Deburr								
	8-Drill #30 pilot holes using wearplate Jig DT8217 Identify Ø0.250" holes with paint marker.								
	9-Open wearplate holes of D3391-013 assembly detail section G-G to Ø0.250" (14 holes) as per Dwg D3391 and 2 holes in section Detail "J", do not open wearplate holes of section "J"								
	10-Open wearplate holes of D3391-013 assembly detail section H-H to Ø0.297" (20 holes) as per Dwg D3391								

-DC 13/07/09

-DC 13/07/10

Item ID: D3391-013 **Accept** *N900040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Mid Tube Assembly
Start Date: 10/29/12 **Start Qty:** 1.00 *1* **Cust Item ID:**
Required Date: 11/02/12 **Req'd Qty:** 1.00 *1* **Customer:**
Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Run Start** *NR1*
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop** *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp

11-Open .375" holes to .438" ***do not open fwd saddle holes***

12- Locate electric step holes at 39.6875" from fwd end and drill using DT 9612

13-Locate D3391-021 in D3391-023 at 9.00" (see view z-z)

14- Transfer drill one fwd saddle hole only to .188" dia, transfer drill all remaining fwd saddle holes using DT 8149 locating from previously drill .188" dia hole, using t-pins and clicos to ensure perfect allingment, open up previously tranfer drilled pilot holes in D3391-013/-011 to 0.438" dia. in D3391-011

15- Transfer drill 2 wearplate holes into D3391-011 using DT8217, locating from two previously drilled holes, drill remaining wearplate holes into D3391-011.

16- Locating from two fwd wearplate holes drill remaining 6 wearplte holes in D3391-011 using DT8937

17- Open 2 fwd wearplate holes in D3391-013 to .250" dia.

~~18- counterbore two aft wearplate holes in D3391-011 as per dwg~~

19- Open 12 wearplate holes in D3391-011 to 0.297" dia.

20- insert D3391-011 into D3391-13

21- insert T-pins into first and third fwd saddle holes

23- ON FIRST SIDE ONLY drill out 2nd and forth fwd saddles holes to 0.500" as per

24- ON 2ND SIDE ONLY ream out 2nd and forth saddle hole to 0.499".

DC 13/07/10

Work Order ID 92454

92454

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Item ID: D3391-013 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Mid Tube Assembly

Start Date: 10/29/12 **Start Qty:** 1.00 *1* **Cust Item ID:**

Required Date: 11/02/12 **Req'd Qty:** 1.00 *1* **Customer:**

Reference:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
	25- Deburr and blow out all chips from inside tube	– DC 13/07/10							
110 *110* QC Quality Control	QC5- Inspect part completeness to step on W/O	0.00				1			
	Memo	0.00 SHD 15 7.10							
120 *120* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1	0.00 – DC 13/07/10							
	Memo	0.00							
130 *130* QC Quality Control	QC7-Inspect Chemical Conversion Coat	0.00 DAS 6.03.89 13-7-10							
	Memo	0.00							

Work Order ID 92454

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October-29-12 3:13:38 PM

Item ID: D3391-013 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Mid Tube Assembly

Start Date: 10/29/12 **Start Qty:** 1.00 *1*

Required Date: 11/02/12 **Req'd Qty:** 1.00 *1*

Cust Item ID:

Customer:

Reference:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** ____ **Date:** ____ **Tooling:** ____ **Date:** ____

QC: ____ **Date:** ____ **SPC (Y/N):** ____ **Date:** ____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140		0.00							
140 Skidtubes	Skidtubes								
	Memo	0.00							
Skidtubes	1- Open holes to finish size as per dwg.								
	2- Prepare for welding								
	3- Bond web in place as per Dwg D3391 & QSI 015. ******Ensure Web Aligment ****** A/R Sikaflex Batch: 126149 Exp. date: 13/11/14								
150	QC5- Inspect part completeness to step on W/O	0.00				1	0	13/07/11	DAS 18 8-89
150 QC	**Memo**	0.00							
Quality Control									

- DC 13/07/10

Work Order ID 92454

92454

October-29-12 3:13:38 PM

Item ID: D3391-013 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Mid Tube Assembly

Start Date: 10/29/12 **Start Qty:** 1.00 *1* **Cust Item ID:**

Required Date: 11/02/12 **Req'd Qty:** 1.00 *1* **Customer:**

Reference:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160		0.00							
160	Skidtubes								
Skidtubes		0.00							
Skidtubes	**Memo**								
	1-Weld crossbolt spacer as per dwg D3391 & QSI 004 A/R ALUM Batch: M125127 BE 13/07/11								
	2-grind weld flush – DC 13/07/11								
	3- Transfer drill electric step pilot holes only from D3391-013 into D3391-015								
	4- Open elecrtic step holes 0.391"per dwg D3391 (section L-L) – DC 13/07/12								
	5- Open elecrtic step holes 0.297"per dwg D3391 (section M-M)								
	6- Open elecrtic step holes 0.250" per dwg D3391 (section LL-LL)								
170	QC10- Inspect visual per QSI004- ground welds	0.00							
170								13-08-01	DAS CG
QC	**Memo**	0.00							
Quality Control									

Work Order ID 92454

92454

October-29-12 3:13:38 PM

Item ID: D3391-013 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Mid Tube Assembly

Start Date: 10/29/12 **Start Qty:** 1.00 *1*

Required Date: 11/02/12 **Req'd Qty:** 1.00 *1*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	QC5- Inspect part completeness to step on W/O	0.00							DAS
180							13-08-01		CG 8-8
QC	Memo	0.00							
Quality Control									
185	Pressure Wash per QSI005 4.3	0.00							
185									
HandFinish	Memo	0.00							
Hand Finishing	AND REALODINE AS PER PAR09-043								
190	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
190									
Powdercoat	Memo	0.00							
Powder Coating	START TIME: 8:30								
	OVEN TEMPERATURE: 320°F								
	FINISH TIME: 9:00								

D.D — 13/8/6

IRY mf 13/08/08

M126125

Work Order ID 92454

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Item ID: D3391-013 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Mid Tube Assembly

Start Date: 10/29/12 **Start Qty:** 1.00 *1*

Required Date: 11/02/12 **Req'd Qty:** 1.00 *1*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200	QC3- Inspect Part Finish	0.00				1 x	d	11	13/08/2(
200									
QC	**Memo**	0.00							
Quality Control									
230		0.00							
230	HandFinishing								
HandFinish	**Memo**	0.00				1 x	d	11	13/08/1(
Hand Finishing	1- press fit D3591-1 spacers using DT9416 starting from 0.500" side								
	2- Install inserts								
240	QC5- Inspect part completeness to step on W/O	0.00				1			
240									
QC	**Memo**	0.00							
Quality Control	Inspect thread of each insert using DT8821								

DAS 27 Oct 12

Bf. 22

Work Order ID 92454

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Item ID: D3391-013 **Accept** *N9000040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Mid Tube Assembly

Start Date: 10/29/12 **Start Qty:** 1.00 *1* **Cust Item ID:**

Required Date: 11/02/12 **Req'd Qty:** 1.00 *1* **Customer:**

Reference:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
250	HandFinishing	0.00				1x	0		13/08/21
250 HandFinish Hand Finishing	**Memo** / Assemble as per dwg D3391	0.00							
260	QC5- Inspect part completeness to step on W/O	0.00				1			
260 QC Quality Control	**Memo**	0.00							
270	Identify as per dwg & Stock Location: W10	0.00	D412-742-041 / B95053			1x	0		13/08/21
270 Packaging Packaging	**Memo**	0.00							

Item ID: D3391-013 **Accept** *N900040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Mid Tube Assembly
Start Date: 10/29/12 **Start Qty:** 1.00 *1* **Cust Item ID:**
Required Date: 11/02/12 **Req'd Qty:** 1.00 *1* **Customer:**
Reference:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
280	QC21- Final Inspection - Work Order Release	0.00							
280 QC Quality Control	Memo	0.00				MLJ 13-08-23			

MLJ 13-08-22.

Picklist Print

October-29-12 3:13:37 PM

Work Order ID: 92454
Parent Item: D3391-013
Parent Item Name: Mid Tube Assembly

Start Date: 10/29/12 **Required Date:** 11/02/12
Start Qty: 1.00 **Required Qty:** 1.00

Comments:
IPP A05.12.13New IssueEC
IPP B06.02.09Dwg rev.D EC
IPP Rev:06-03-28 Update Manufacturing Instructions JLMIPP rev D 07.03.14 dwg Rev F EC
IPP Rev:E ECN 1056 07-11-13 DD verified by: EC
IPP Rev:F 08-07-28 chg 0.332" to 0.391" dim. hole in comment DD verified by:EC
IPP Rev:G 08-09-08 new process (ecn 08-510) DD verified by:EC
IPP Rev:H 08-09-10 revH as per dwg DD verified by:EC IPP rev J 10.03.30 revised process, added D3391-015 to pick list EC verified : DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
ALS4-1032-130 Insert		Purchased	No			250	Each	389.0000	26	26	26	10/29/12	
				Location		**Loc Qty**		**Loc Code**					
				ST280		205	M126 109			X26			
					119084	116							
					120671	89							
				ST281		44							
					120807	36							
					120837	8							
				ST282		140							
					121269	140							
ALS4-428-165 Inserts		Purchased	No			230	Each	407.0000	4	4	4	10/29/12	
				Location		**Loc Qty**		**Loc Code**					
				FP002		407							
					114172	18							
					117769	389				XY			
AN960C10L washer	NAS1149C0332R	Purchased	No				Each	21.0000	4	M125654 (XY)	4	10/29/12	
				Location		**Loc Qty**		**Loc Code**					
				ST		21							
					107534	21							
AN960C416L WASHER	NAS1149C0432R	Purchased	No			250	Each	0.0000	4	M122441 (XY)	4	10/29/12	

Picklist Print

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Work Order ID: 92454
Parent Item: D3391-013
Parent Item Name: Mid Tube Assembly

Start Date: 10/29/12 **Required Date:** 11/02/12
Start Qty: 1.00 **Required Qty:** 1.00

D2500-1-100 Skidtube Extrusion	Manufactured	No		100	Each	157.0000	1 DC 13/06/26

Location	Loc Qty	Loc Code	
HALL	157		
50251	3		
82373	57		(1)
86065	97		

D3389-1 Web	Manufactured	No			Each	8.0000	DC 13/07/10

Location B94063	Loc Qty	Loc Code	(1)
LG	8		
85508	4		
86687	4		

D3391-011 Fwd Tube Assembly	Manufactured	No	B91901	140	Each	0.0000	1 DC 13/07/10
D3391-015 Aft Tube Assembly	Manufactured	No	B91938	160	Each	0.0000	1 M 13/02/10
D3591-1 Bushing	Manufactured	No		230	Each	43.0000	2 M 2 13/09/26

Location	Loc Qty	Loc Code	
FP	5	B1006699	X2
80377	4		
82027	1		
ST059	38		
57350	1		
83237	37		

Picklist Print

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Work Order ID: 92454

Parent Item: D3391-013

Parent Item Name: Mid Tube Assembly

Start Date: 10/29/12 **Required Date:** 11/02/12

Start Qty: 1.00 **Required Qty:** 1.00

D3672-1 Phenolic Washer	Manufactured	No		250	Each	1,361.0000	4	4 13/08/12

Location	Loc Qty	Loc Code	
FG	10	B99099	V4
85222	10		
FP001	2		
80369	2		
ST061	1349		
72229	4		
76277	21		
83608	500		
85222	344		
91325	480		

D3672-3 Phenolic Washer	Manufactured	No		250	Each	1,659.0000	4	4 13/08/12

Location	Loc Qty	Loc Code	
FG	20		
84432	20		
ST061	1639		
84432	21		
86517	93		
88441	500		
89273	510		
91915	515		V4

Picklist Print

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Work Order ID: 92454

Parent Item: D3391-013 **Start Date:** 10/29/12 **Required Date:** 11/02/12

Parent Item Name: Mid Tube Assembly **Start Qty:** 1.00 **Required Qty:** 1.00

D3681-1 Spacer	Manufactured	No		160	Each	82.0000	12	12	B 13/07/11 B101031 ×3 B101754 ×~~9~~ 10

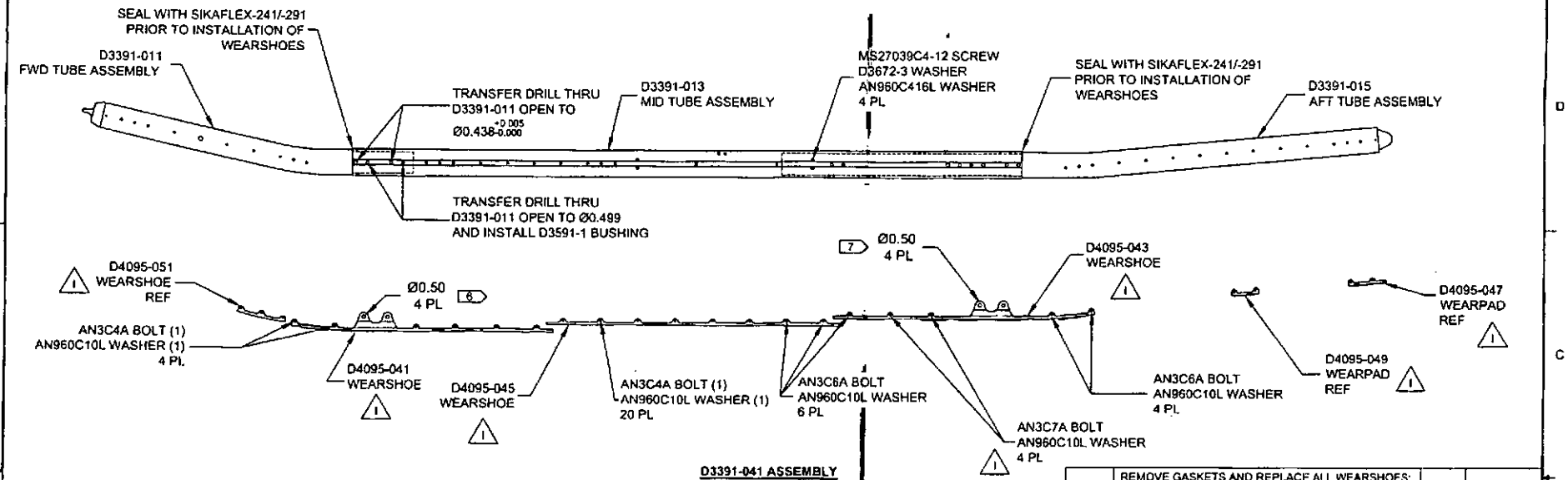
Location		Loc Qty	Loc Code
LG		72	
	80361	1	
	87611	71	
LG001		10	
	68958	2	
	69893	2	
	71845	2	
	74874	1	
	76004	1	
	77501	2	

MS27039C1-09 SCREW	Purchased	No		250	Each	104.0000	4	4	13/08/12

Location		Loc Qty	Loc Code
FP002		12	
	17831	12	
ST293		92	
	116290	92	X4

MS27039C4-08 SCREW	Purchased	No		100	Each	138.0000	4	4	13/08/12

Location		Loc Qty	Loc Code
310		50	M122141 X4
	122452	50	
ST310		88	
	122141	88	



D3391-041 ASSEMBLY

D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY -041	PART NUMBER	DESCRIPTION
X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
2	D3591-1	BUSHING
4	D3672-3	WASHER
1	D4095-041	WEARSHOE
1	D4095-043	WEARSHOE
1	D4095-045	WEARSHOE
1	D4095-047	WEARPAD
1	D4095-049	WEARPAD
1	D4095-051	WEARSHOE
24	AN3C4A	BOLT
10	AN3C6A	BOLT
4	AN3C7A	BOLT
38	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

GENERAL NOTES

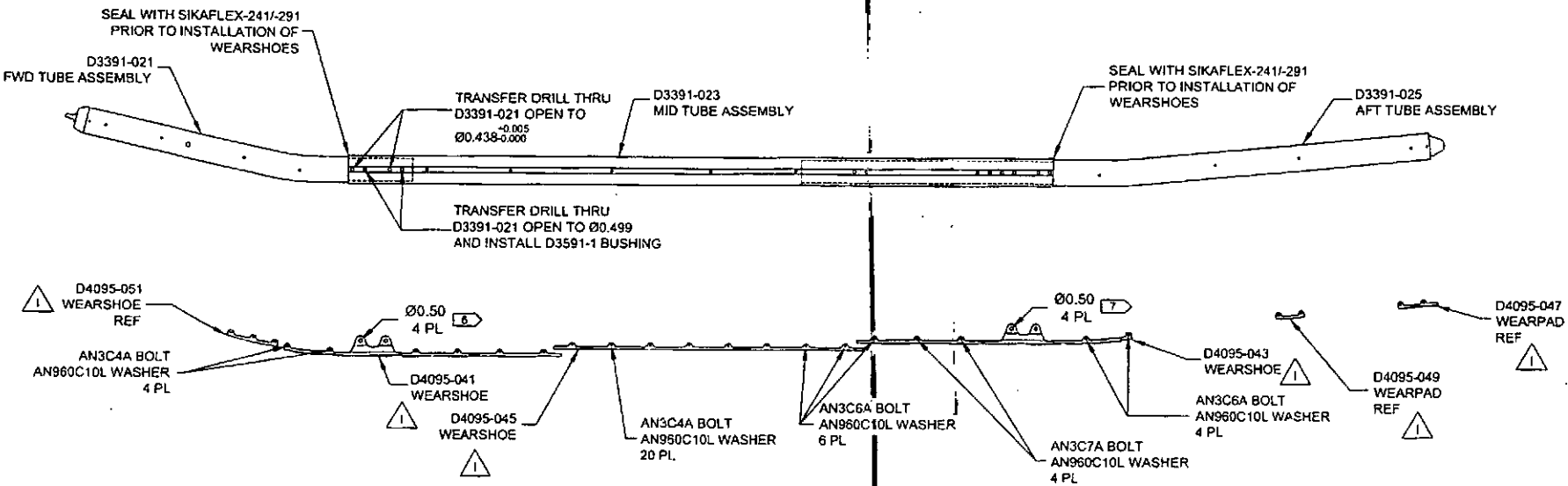
1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
2) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.
6) FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-041
7) FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-043

No 92454

RELEASED
2011-11-04
ECN# 11-662

REV.	DESCRIPTION	BY	DATE
I	REMOVE GASKETS AND REPLACE ALL WEARSHOES; PARTS LIST UPDATE, ZN A8-1, ZN A8-2, ZN A6-4, ZN B6-8; LPS-3 COATING REMOVED FROM NOTE 2, ZN A3-1, ZN A3-2, REMOVED INSERT AELS-1032-130, ZN B6-4, B2-4, C7-8, C3-6; REMOVED HOLES, ZN D6-4 ZN D2-4, ZN D7-8, ZN D3-8	XDF	11.10.13
H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING, ZN C6 Ø0.438 DIM WAS 4 PL, ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING, ZN C6 Ø0.438 DIM WAS 4 PL, ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS. SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07

DESIGN	PH	**DART AEROSPACE USA, INC** KENT, WA
DRAWN	XDF	
CHECKED		DRAWING NO. D3391 REV. I SHEET 1 OF 8
MFG. APPR.		
APPROVED		TITLE 412 FLOAT SKIDTUBE SCALE NTS
DE APPR.		
DATE	11.10.13	



D3391-043 ASSEMBLY

D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

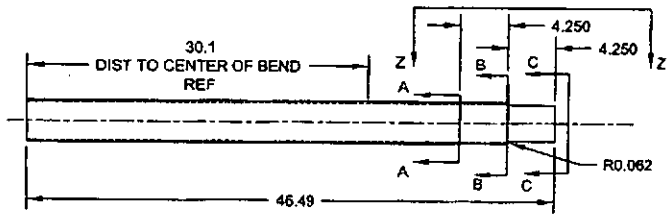
QTY -043	PART NUMBER	DESCRIPTION
X	D3391-043	FLOAT SKIDTUBE ASSEMBLY
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-023	MID TUBE ASSEMBLY
1	D3391-025	AFT TUBE ASSEMBLY
2	D3591-1	BUSHING
1	D4095-041	WEARSHOE
1	D4095-043	WEARSHOE
1	D4095-045	WEARSHOE
1	D4095-047	WEARPAD
1	D4095-049	WEARPAD
1	D4095-051	WEARSHOE
24	AN3C4A	BOLT
10	AN3C6A	BOLT
4	AN3C7A	BOLT
38	AN960C10L	WASHER

GENERAL NOTES

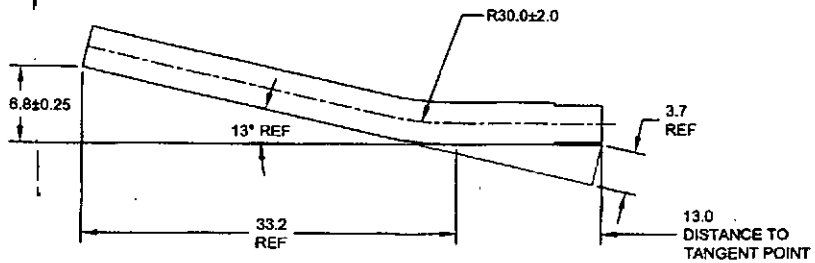
1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3 1
2) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.
6) FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-041
7) FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-043

RELEASED
2011-11-04

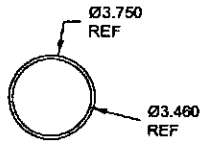
DESIGN	PH	DART AEROSPACE USA, INC
DRAWN	XDF	KENT, WA
CHECKED		DRAWING NO. D3391 REV. I
MFG. APPR.		SHEET 2 OF 8
APPROVED		TITLE 412 FLOAT SKIDTUBE
DE APPR.		SCALE NTS
DATE	11.10.13	



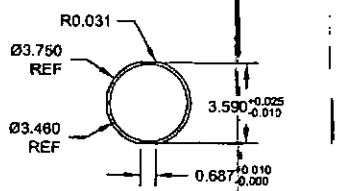
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



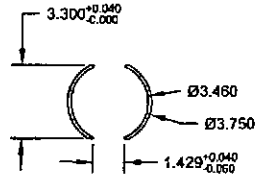
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



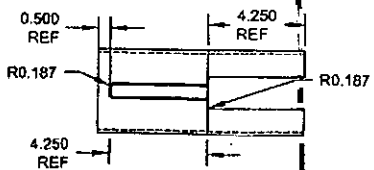
SECTION A-A
SCALE 2X



SECTION B-B
SCALE 2X



SECTION C-C
SCALE 2X



VIEW Z-Z
SCALE 2X

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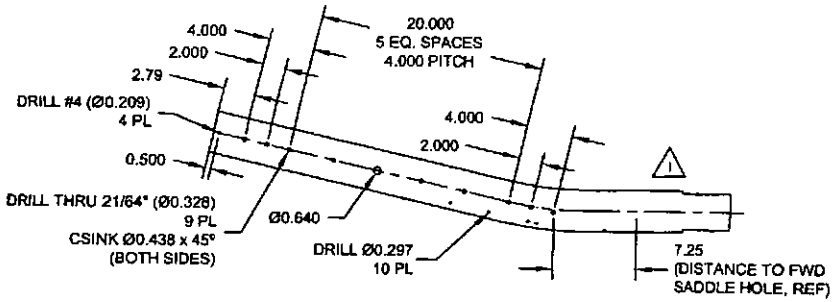
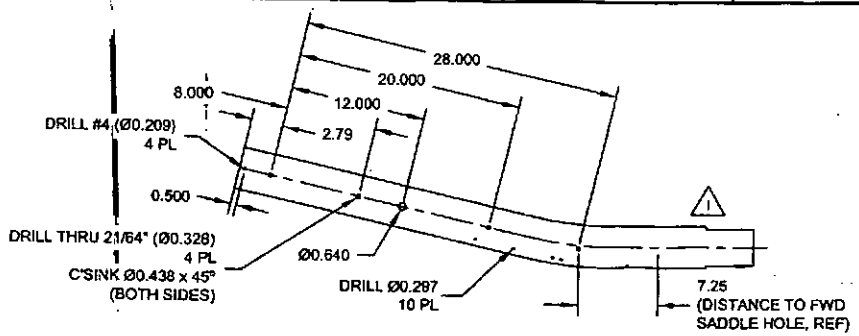
2011-11-04

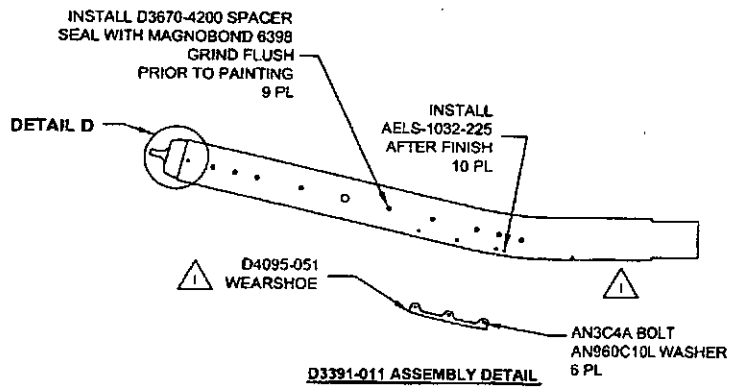
DESIGN	PH	**DART AEROSPACE USA, INC** KENT, WA
DRAWN	XDF	
CHECKED		DRAWING NO. REV. I
MFG. APPR.		D3391 SHEET 3 OF 8
APPROVED		TITLE SCALE
DE APPR.		412 FLOAT SKIDTUBE NTS
DATE	11.10.13	



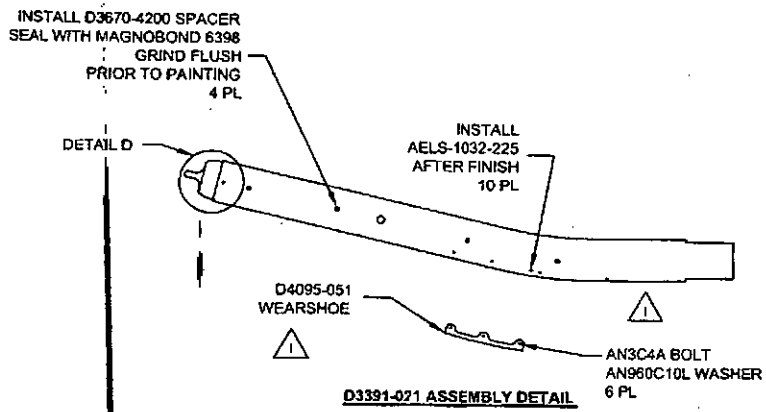
D3391-011 DRILLING DETAIL



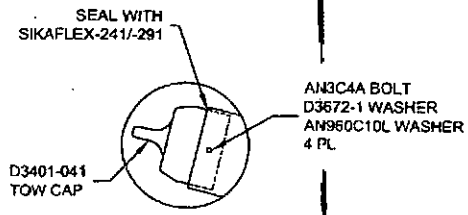
D3391-021 DRILLING DETAIL



D3391-011 ASSEMBLY DETAIL



D3391-021 ASSEMBLY DETAIL



DETAIL D
SCALE 2X

D3391-011/-021 FWD TUBE ASSEMBLY PARTS LIST

QTY - 011	QTY - 021	PART NUMBER	DESCRIPTION
X		D3391-011	FWD TUBE ASSEMBLY
	X	D3391-021	FWD TUBE ASSEMBLY
1	1	D3401-041	TOW CAP
9	4	D3670-4200	SPACER
4	4	D3672-1	WASHER
1	1	D4095-051	WEARSHOE
1	1	D6013-047	FWD TUBE
10	10	AN3C4A	BOLT
10	10	AN960C10L	WASHER
10	10	AELS-1032-225	INSERT

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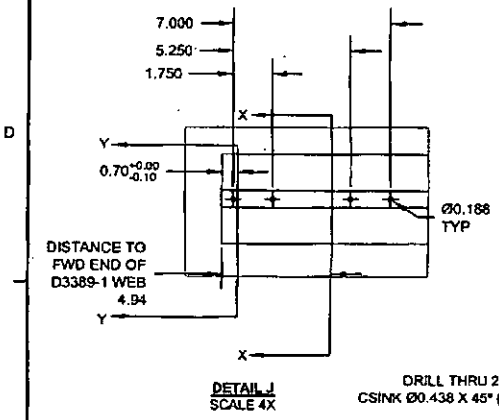
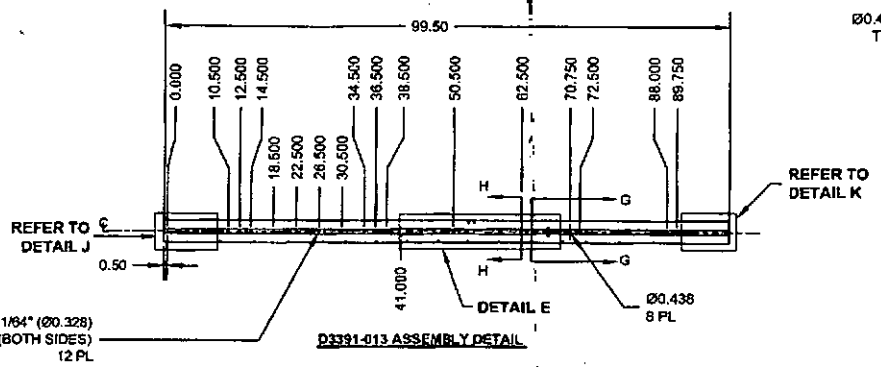
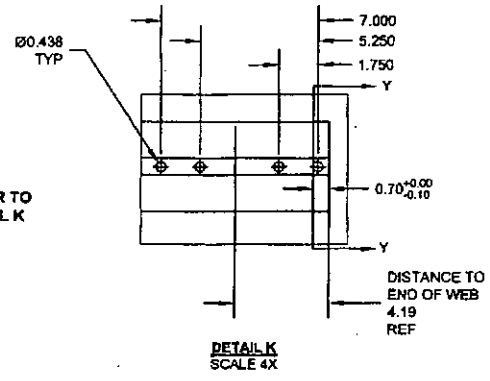
DESIGN	PH	DART AEROSPACE USA, INC KENT, WA
DRAWN	XDF	
CHECKED		DRAWING NO. REV. I
MFG. APPR.		D3391 SHEET 4 OF 6
APPROVED		TITLE SCALE
DE APPR.		412 FLOAT SKIDTUBE NTS
DATE	11.10.13	



DETAIL J
SCALE 4X

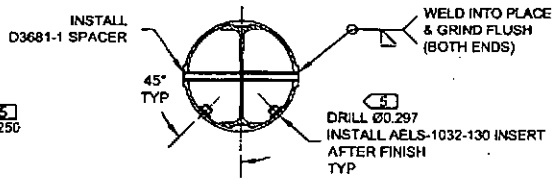


D3391-013 ASSEMBLY DETAIL

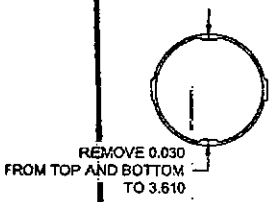


DETAIL K
SCALE 4X

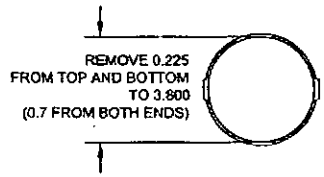
SECTION G-G
SCALE 5X



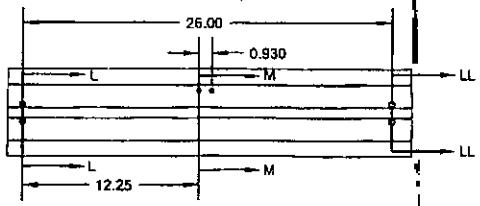
SECTION H-H 12 PL
SCALE 5X



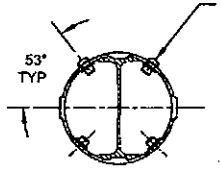
SECTION X-X
SCALE 5X



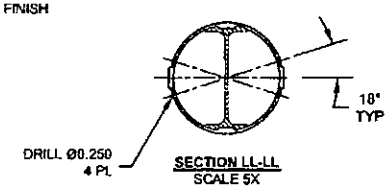
SECTION Y-Y
SCALE 5X



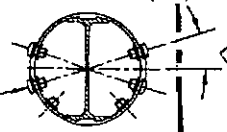
DETAIL E
SCALE NONE



SECTION M-M
SCALE 5X



SECTION LL-LL
SCALE 5X



SECTION L-L
SCALE 5X

RELEASED
2011-11-04

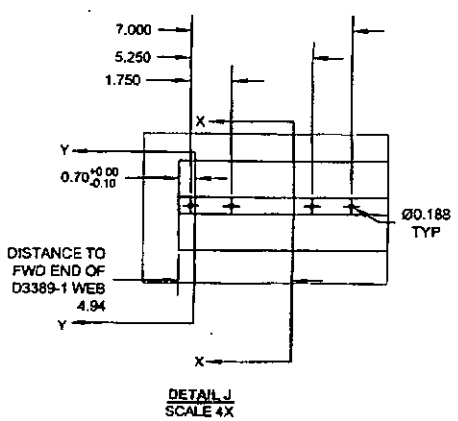
D3391-013 MID TUBE ASSEMBLY PARTS LIST

QTY -013	PART NUMBER	DESCRIPTION
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3581-1	SPACER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW

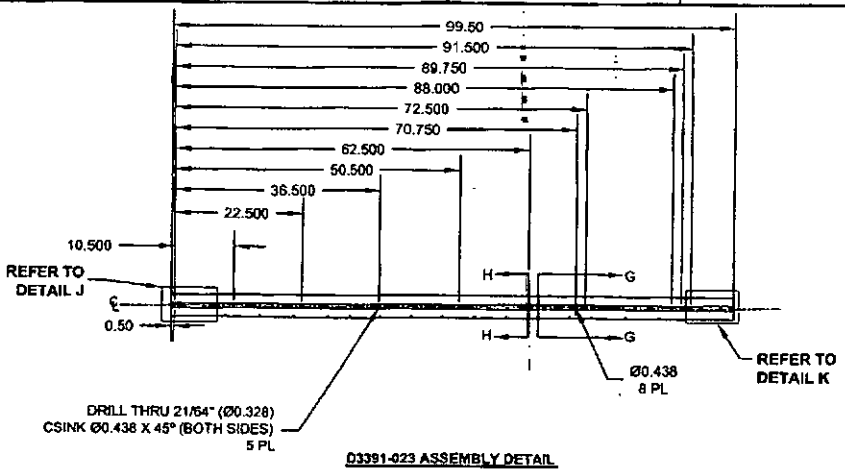
D3391-013 MID TUBE ASSEMBLY

1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER QSI 015
3) WELDING: PER DART QSI 004

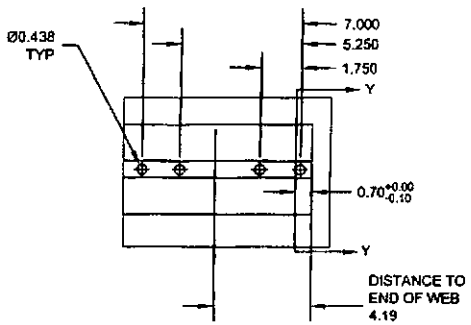
DESIGN	PH	DART AEROSPACE USA, INC
DRAWN	XDF	KENT, WA
CHECKED		DRAWING NO. D3391 REV. I
MFG. APPR.		SHEET 5 OF 8
APPROVED		TITLE 412 FLOAT SKIDTUBE
DE APPR.		SCALE NTS
DATE	11.10.13	



DETAIL J
SCALE 4X

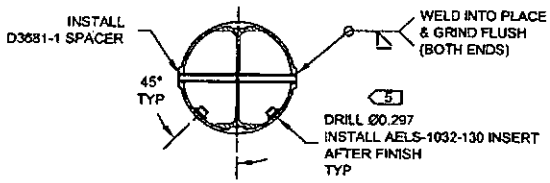


D3391-023 ASSEMBLY DETAIL

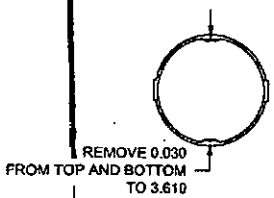


DETAIL K
SCALE 4X

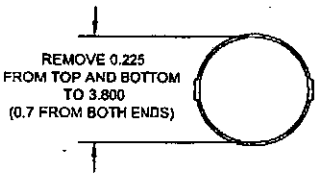
SECTION G-G
SCALE 5X



SECTION H-H
SCALE 5X
5 PL



SECTION X-X
SCALE 5X



SECTION Y-Y
SCALE 5X

D3391-023 MID TUBE ASSEMBLY PARTS LIST

QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

D3391-023 MID TUBE ASSEMBLY

1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER QSI 015
3) WELDING: PER DART QSI 004

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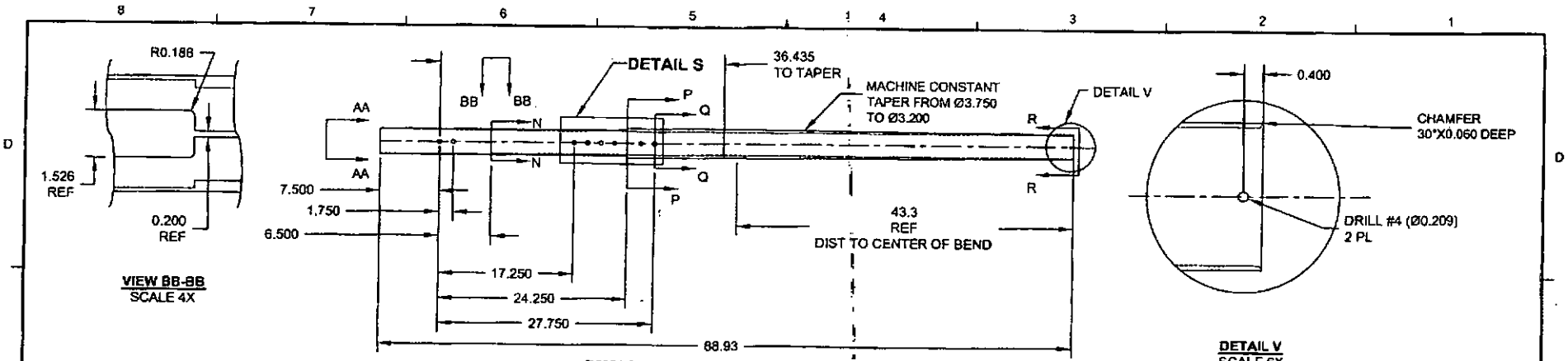
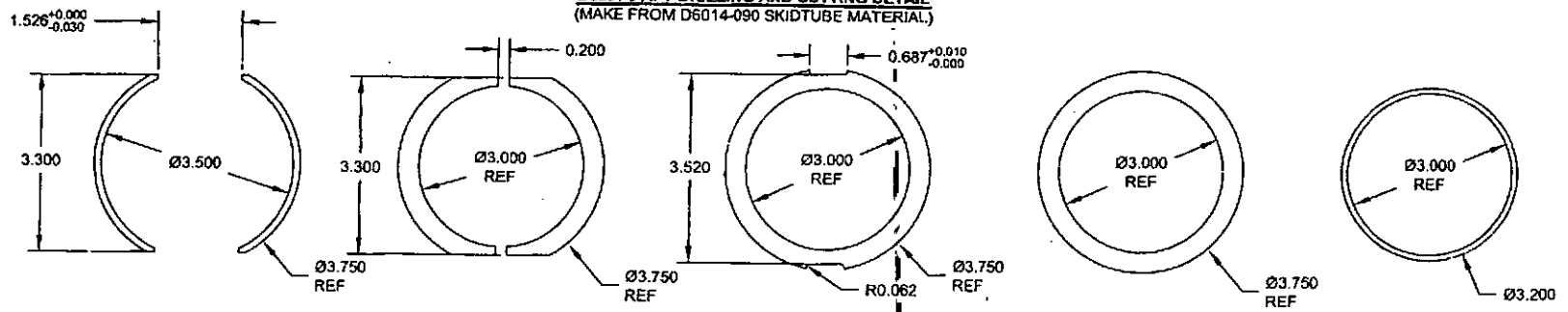
2011-11-04

DESIGN	PH	DART AEROSPACE USA, INC
DRAWN	XDF	KENT, WA
CHECKED		DRAWING NO. REV. I
MFG. APPR.		D3391 SHEET 6 OF 8
APPROVED		TITLE SCALE
DE APPR.		412 FLOAT SKIDTUBE NTS
DATE	11.10.13	



D3391-3 AFT DRILLING AND CUTTING DETAIL
(MAKE FROM D6014-090 SKIDTUBE MATERIAL)



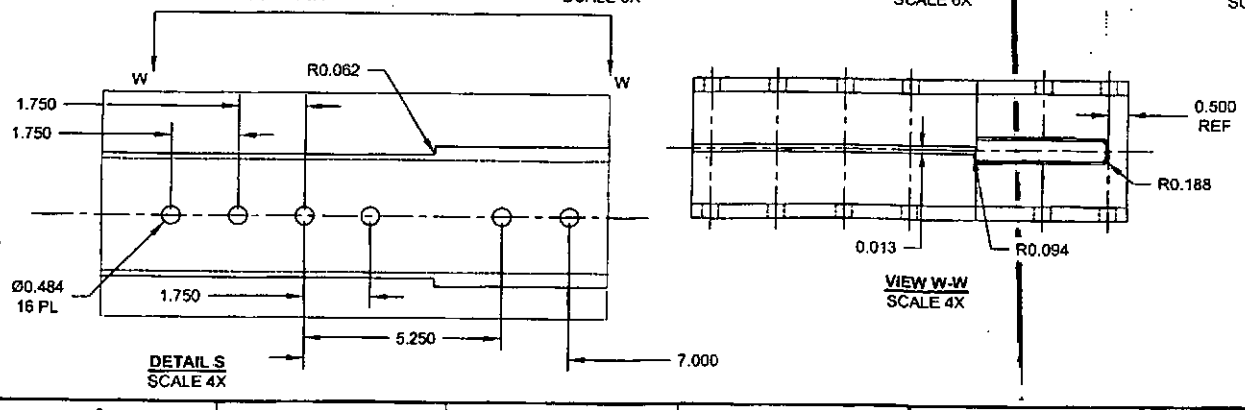
SECTION AA-AA
SCALE 6X

SECTION N-N
SCALE 6X

SECTION P-P
SCALE 6X

SECTION Q-Q
SCALE 6X

SECTION R-R
SCALE 6X



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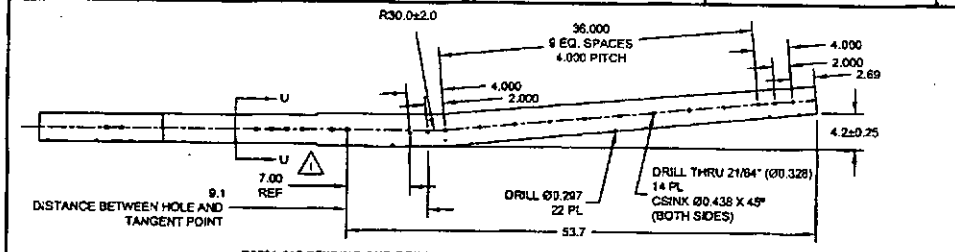
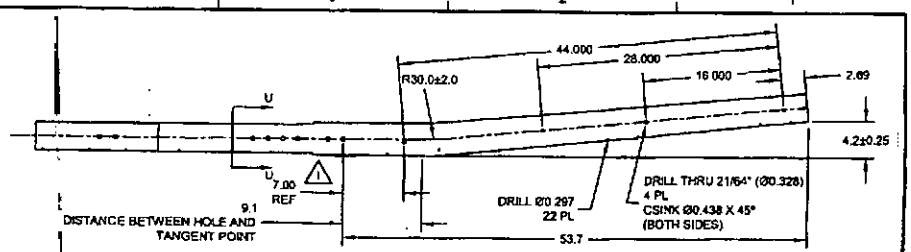
2011-11-04

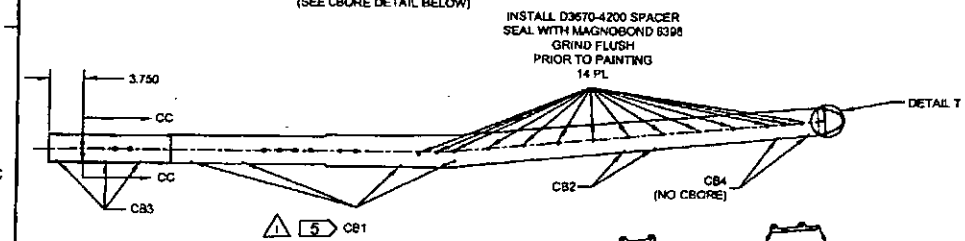
DESIGN	PH	DART AEROSPACE USA, INC KENT, WA
DRAWN	XDF	
CHECKED		DRAWING NO. D3391 REV. I
MFG. APPR.		SHEET 7 OF 8
APPROVED		TITLE 412 FLOAT SKIDTUBE SCALE NTS
DE APPR.		
DATE	11.10.13	



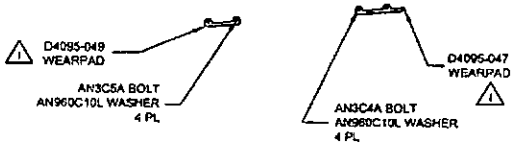
D3391-015 BENDING AND DRILLING DETAIL
(SEE CBORE DETAIL BELOW)

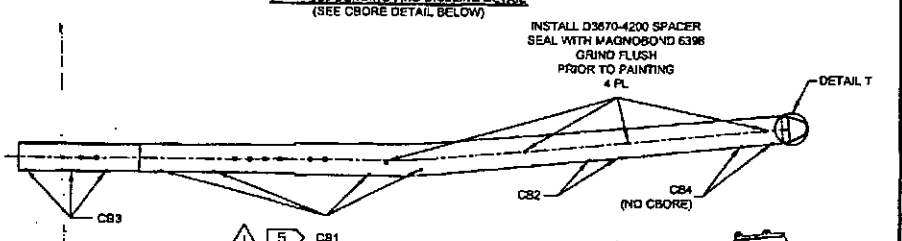


D3391-025 BENDING AND DRILLING DETAIL
(SEE CBORE DETAIL BELOW)

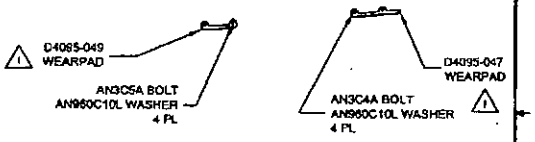


D3391-015 ASSEMBLY AND CBORE DETAIL
(SEE TABLE)



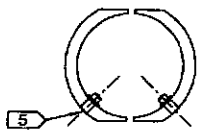


D3391-025 ASSEMBLY AND CBORE DETAIL
(SEE TABLE)

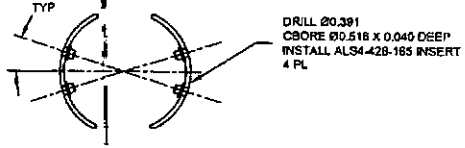


D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST

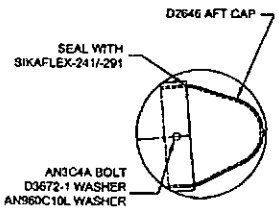
QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X		D3391-015	AFT TUBE ASSEMBLY
	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D2646	AFT CAP
14	4	D3670-4200	SPACER
2	2	D3672-1	WASHER
1	1	D4095-049	WEARPAD
1	1	D4095-047	WEARPAD
1	1	D6014-090	AFT TUBE
14	14	AELS-1032-130	INSERT
8	8	AELS-1032-225	INSERT
4		ALS4-428-165	INSERT
6	6	AN3C4A	BOLT
4	4	AN3C5A	BOLT
10	10	AN960C10L	WASHER



SECTION U-U
SCALE 3X



SECTION CC-CC
SCALE 3X



DETAIL T
SCALE 4X

CBORE HOLES MARKED CB1-CB4 AS FOLLOWS AND
INSTALL AELS-1032-XXX AFTER FINISH AS NOTED

HOLES MARKED	QTY D3391-015	QTY D3391-025	CBORE	P/N
CB1	8	8	Ø0.430 X 0.170	AELS-1032-225
CB2	4	4	Ø0.430 X 0.170	AELS-1032-130
CB3	6	6	Ø0.430 X 0.040	AELS-1032-130
CB4	4	4	NONE	AELS-1032-130

RELEASED
2011-11-04

DESIGN	PH	DART AEROSPACE USA, INC
DRAWN	XDF	KENT, WA
CHECKED		DRAWING NO. D3391 REV. I
MFG. APPR.		SHEET 8 OF 8
APPROVED		TITLE: 412 FLOAT SKIDTUBE
DE APPR.		SCALE: NTS
DATE	11.10.13	

NO. 324

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job #: 102486
Part #: D3391-023
Description: Mid tube
Welding Process: Tig[✓] Mig[ ]
Base materiel: Aluminium
Current: AC[✓] DC[ ]

TEST REQUIREMENTS AND RESULTS

Visual:	pass[✓]	fail[ ]
Incomplete Penetration:	pass[✓]	fail[ ]
Incomplete Fusion:	pass[✓]	fail[ ]
Cracks:	pass[✓]	fail[ ]
Overlap (cold lap)	pass[✓]	fail[ ]
Undercut:	pass[✓]	fail[ ]
Pin holes:	pass[✓]	fail[ ]
Porosity (surface):	pass[✓]	fail[ ]
Coloration:	pass[✓]	fail[ ]
Burn through:	pass[✓]	fail[ ]

Qualifier DAS 09 8-89 **Date of Test Coupon** 13-06-19

Welder Barclay Elliott **Date of Test Coupon** 13-06-19

The above named individual is qualified in accordance with AWS D17.1.2001 to weld